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CLAIM AMENDMENTS

Please cancel without prejudice claim 53 and amend claims 36, 54-58, 61-63, 68-71, 73 and 77 as indicated in the following list of pending claims:

PENDING CLAIMS

36. (Amended) An electrophysiology device, comprising:
- a) an elongated shaft having a proximal end, a distal end, and a distal shaft section with a proximal portion and a distal portion;
 - b) a plurality of electrodes on the proximal portion of the distal shaft section, having an interelectrode spacing of about 1 mm to not greater than 3 mm;
 - c) at least one temperature sensor on an exterior portion of the distal shaft section disposed between two adjacent electrodes and having a conductive metallic band disposed over and connected to the sensor;
 - d) an elongated core member in the distal shaft section.
53. (Cancelled)
54. (Amended) The device of claim 36 wherein the metal band is soldered to the temperature sensor.
55. (Amended) The device of claim 36 wherein a jacket is disposed about and in contact with the metal band, and defines an outer surface of the electrophysiology device.
56. (Amended) The device of claim 55 wherein the jacket covers part of an adjacent electrode.

57. (Amended) The device of claim 55 wherein the jacket covers part of both electrodes adjacent to the temperature sensor.

58. (Amended) The device of claim 55 wherein the jacket covers a periphery of at least one of the two electrodes adjacent to the temperature sensor.

61. (Amended) An electrophysiology device, comprising:

- a) an elongated shaft having a proximal end, a distal end, a distal shaft section with a proximal portion and a distal portion and a wall portion defining at least in part an inner lumen extending within the distal shaft section;
- b) an elongated core member disposed within the inner lumen;
- c) a plurality of electrodes on the proximal portion of the distal shaft section, having an interelectrode spacing of about 1 mm to not greater than 3 mm;
- d) a plurality of electrical conductors which are at least partially embedded within a wall of the elongated shaft, and which have distal ends electrically connected to an electrode on the proximal shaft portion; and
- e) at least one temperature sensor on an exterior portion of the distal shaft section disposed between two adjacent electrodes and having a conductive metallic band disposed over and connected to the sensor.

62. (Amended) An electrophysiology device, comprising:

- a) an elongated shaft having a proximal end, a distal end, a distal shaft section with a proximal portion and a distal portion and a wall portion defining at least in part an inner lumen extending within the distal shaft section;

- b) a plurality of electrodes on the proximal portion of the distal shaft section, having an interelectrode spacing of about 1 mm to not greater than 3 mm;
- c) at least one temperature sensor on an exterior portion of the distal shaft section disposed between two adjacent electrodes and having a conductive metallic band disposed over and connected to the sensor; and
- d) at least one electrical conductor which is at least partially embedded within a wall of the elongated shaft, and which has a distal end electrically connected to the at least one temperature sensor on the proximal shaft portion.

63. (Amended) An electrophysiology device, comprising:

- a) an elongated shaft having a proximal end, a distal end, a distal shaft section with a proximal portion and a distal portion and a wall portion defining at least in part an inner lumen extending within the distal shaft section;
- b) a plurality of partially covered electrodes on the proximal portion of the distal shaft section;
- c) at least one temperature sensor on an exterior portion of the distal shaft section disposed between two adjacent electrodes and having a conductive metal band disposed over and connected to the at least one temperature sensor.
- d) at least one electrical conductor which has a distal end electrically connected to the at least one temperature sensor on the proximal shaft portion; and

e) a core member disposed in the distal shaft section.

68. (Amended) A method for treating a patient, comprising:

a) the step of providing an electrophysiology device, comprising:

an elongated shaft having a proximal end, a distal end, and a distal shaft section, and a plurality of electrical conductors;

a plurality of electrodes on an exterior portion of the distal shaft section electrically connected to the electrical conductors, having an interelectrode spacing of not more than about 3 mm; and

a plurality of temperature sensors on an exterior portion of the distal shaft section, being positioned so that at least one temperature sensor is disposed between two adjacent electrodes, each temperature sensor being electrically connected to at least one of the electrical conductors and having a conductive metallic band disposed over and connected to the sensor;

b) the step of introducing the device into the patient's vasculature and advancing the device until the distal section of the device is disposed at a desired location;

c) the step of positioning the device within a location of the patient's vasculature where one or more electrodes are in contact with a desired surface within the vasculature; and

d) the step of delivering high frequency electrical energy to the one or more electrodes in contact with the desired surface to ablate tissue; and

- e) the step of detecting electrical activity with one or more of the electrodes after tissue ablation to determine the effectiveness of the tissue ablation.

69. (Amended) The method of claim 68 wherein high frequency electrical energy is directed to the electrodes sequentially in a proximal direction.

70. (Amended) An electrophysiology device for forming a continuous lesion in a patient's heart tissue, comprising:

- a) an elongated shaft having a proximal end, a distal end, and a distal shaft section;
- b) a plurality of partially covered electrodes on a proximal portion of the distal shaft section, with each electrode having a length of about 2 to about 8 mm and interelectrode spacing of about 1 mm to not greater than 3 mm;
- c) at least one temperature sensor disposed between two adjacent electrodes and having a conductive metallic band disposed over and connected to the sensor;
- d) one or more electrical conductors electrically connected to the at least one temperature sensor.

71. (Amended) A method of treating a patient for cardiac arrhythmia by electrically isolating a first tissue region from a second tissue region, comprising:

- a) providing an electrophysiology device having an elongated shaft which has a proximal end, a distal shaft section having a proximal portion with a plurality of electrodes with temperature sensors between adjacent electrodes having conductive metal bands disposed over and connected to the sensors and having a distal portion with a distal end:

- b) positioning the proximal portion of the distal shaft section at a desired location between the first tissue region and the second tissue region; and
- c) ablating a continuous lesion pattern between the first and second tissue regions with the electrodes on the proximal portion of the distal shaft section to electrically isolate the two tissue regions.

73. (Amended) An electrophysiology device for treating cardiac arrhythmia by electrically isolating a first tissue region from a second tissue region, comprising:

- a) an elongated shaft having a proximal end, a distal end, and a distal shaft section with a proximal portion and a distal portion;
- b) a plurality of electrodes on the proximal portion of the distal shaft section, having an interelectrode spacing not greater than 3 mm;
- c) at least one temperature sensor on the distal shaft section disposed between two adjacent electrodes and having a conductive metallic band over and connected the sensor;
- d) a core member extending at least within the distal shaft section formed of a material selected from the group consisting of stainless steel and a NiTi alloy.

77. (Amended) An electrophysiology device, comprising:

- a) an elongated shaft having a proximal end, a distal end, and a distal shaft section with a proximal portion and a distal portion;
- b) a plurality of electrode means for ablation on the proximal portion of the distal shaft section, having a spacing between electrode means of about 1 mm to not greater than 3 mm;

c) at least one temperature sensor on an exterior portion of the distal shaft section disposed between two adjacent electrodes means and having a conductive metallic band disposed over and connected to the sensor;

d) an elongated core member in the distal shaft section.